

The background features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, creating a modern and dynamic visual effect.

# DHCD Sustainability

What's been going on, and what's coming up

# Agenda

- ▶ Quick Overview
- ▶ What's been going on?
- ▶ What's coming up?
- ▶ Q&A

# Overview

- ▶ DHCD's Sustainability Initiatives Focus on Three Things:
  - ▶ Reducing Greenhouse gas emissions
    - ▶ Exec. Order 594, Climate Bills S. 9 and H. 5060
  - ▶ Resiliency Improvements
    - ▶ SHMCAP
  - ▶ Indoor Air Quality

# Overview

- ▶ DHCD's Sustainability Initiatives Focus on Three Things:
  - ▶ Reducing Greenhouse gas emissions
    - ▶ Weatherization, electrification, more efficient appliances & lighting, etc.
  - ▶ Resiliency Improvements
    - ▶ Various improvements to reduce effects of extreme heat, rainfall flooding, and sea-level rise flooding
  - ▶ Indoor Air Quality
    - ▶ Bath fans, range hoods, healthier building materials (soon!)

# Overview

- ▶ How to do LHAs access funding?
  - ▶ Doing a SUST-focused project?
    - ▶ Just GHG, resiliency, or IAQ related
    - ▶ Sustainability award application
  - ▶ Doing a bigger project that you want to add SUST components to?
    - ▶ Add-On award application
  - ▶ All can be found on DHCD's Sustainability Website
    - ▶ <https://www.mass.gov/service-details/public-housing-sustainability-resilience-and-healthy-building-environments>
    - ▶ Greg's email signature has the link!

What's Been Going On Lately?



# Climate Bill H.5060

## An Act Driving Clean Energy and Offshore Wind

- ▶ Signed in July 2022
- ▶ Improvements to speed up offshore wind procurement and solar PV installations
- ▶ Utilities moving away from fossil fuels
  - ▶ Requires utilities to upgrade the grid, to prepare for distributed generation
  - ▶ After 2025, Mass Save is prohibited from “spending on incentives, programs or support for systems, equipment, workforce development or training as it relates to new fossil fuel equipment unless such spending is for a backup thermal energy source for a heat pump”
    - ▶ In other words, after 2025, incentives for fossil fuel equipment will largely go away

# Climate Bill H.5060, continued

- ▶ Expands workforce development programs focusing on clean energy, and ensuring access to disadvantaged communities
- ▶ Allows 10 municipalities to pilot fossil-free new construction and major renovations
- ▶ Electric Vehicles
  - ▶ Rebates for electric cars, light, medium, and heavy duty vehicles *at point of sale*
    - ▶ Low-income individuals can get an additional \$1500 rebate
      - ▶ This means that EV's are coming to LHAs, it's just a matter of when!
        - ▶ Plan accordingly with repaving projects
  - ▶ Mandates all new cars sold in MA must be zero-emission by 2035



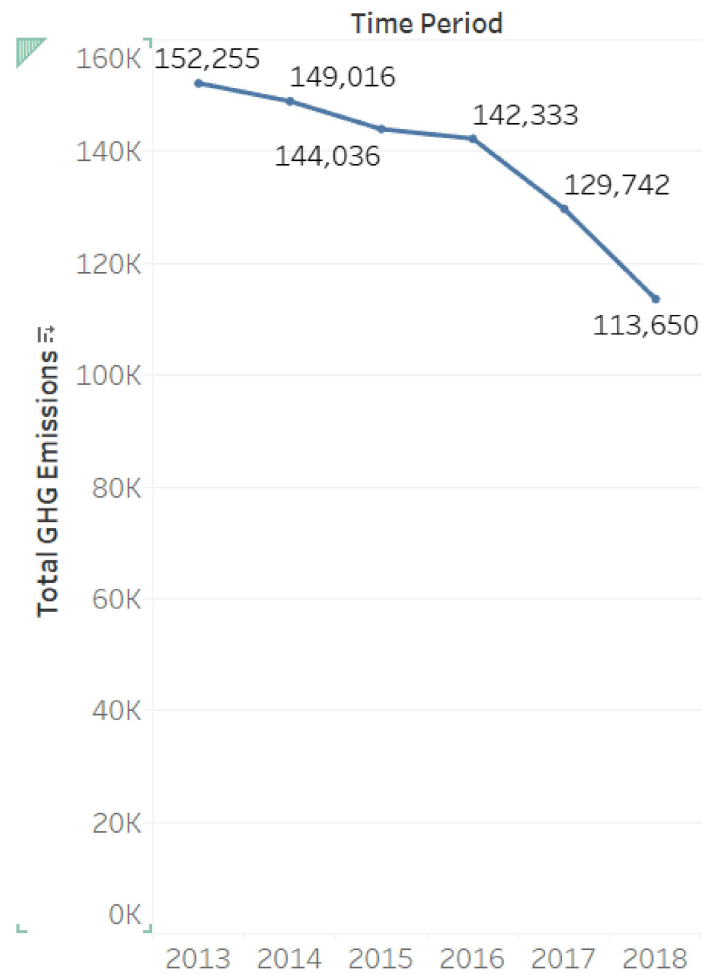
# All this climate legislation, jeez. Can you give us a summary?

- ▶ Climate Bill S.9
  - ▶ Net-zero goal by 2050
  - ▶ Interim goals each 5 years
- ▶ Executive Order 594
  - ▶ Directs agencies like DHCD to Lead by Example to reduce GHG emissions
  - ▶ Encourages us to tie our funding to things that reduce GHG
- ▶ Climate Bill H.5060
  - ▶ More renewable power
  - ▶ Fewer fossil fuels
  - ▶ More EVs

## GHG are Decreasing

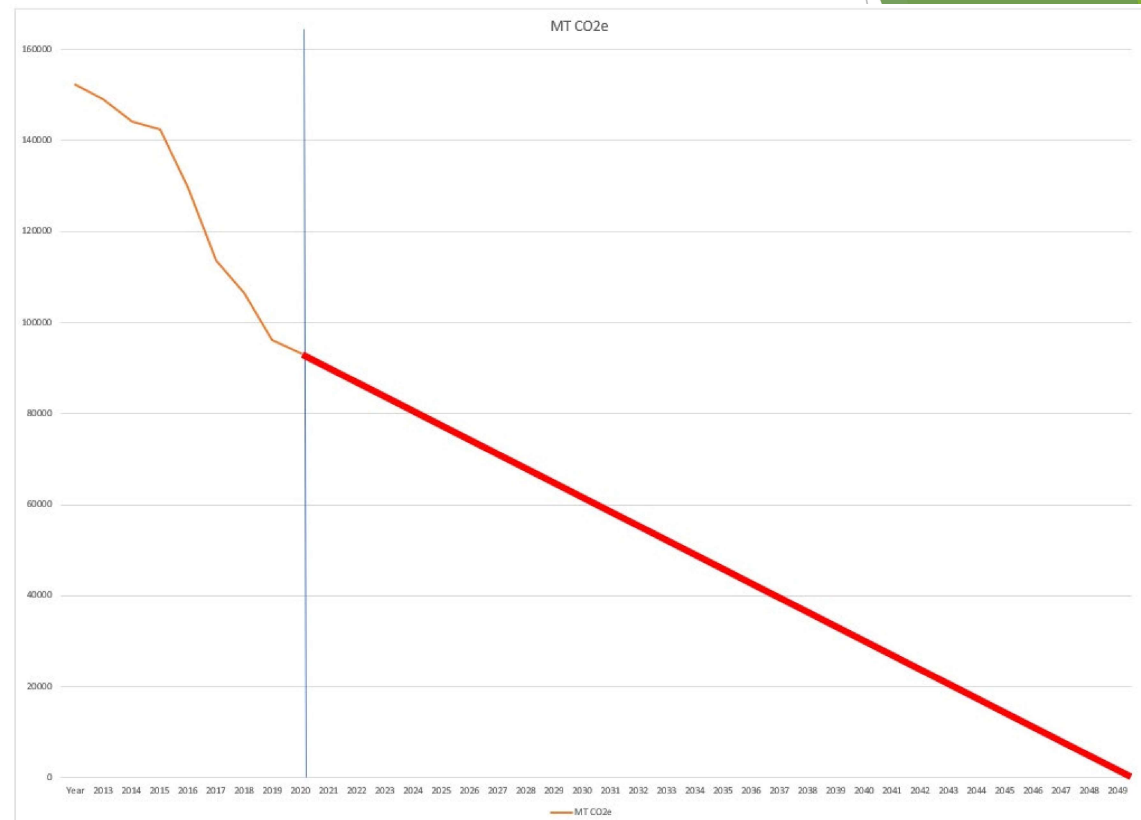
- Partly because of decreased consumption (electricity, natural gas, oil, propane)
- Partly because of electrification, and a greening-grid

## Total GHG Emissions (MT CO<sub>2</sub>e)



## GHG are Decreasing

- We have to keep it up to hit net-zero by 2050!
- Electrification is key, as is continued energy efficiency
- Renewable energy will grow even more important



## Heat Pump Study

- Completed earlier this year
- Focused on:
  - Why some systems have issues, and
  - How to better install, maintain, and operate systems going forward
- Recommendations in the Design Guidelines



## Heat Pump Study- Highlights

- They save utility costs and GHG emissions
  - Across 10 developments, average = \$19,600 annually
- When heating, set at a comfortable temp and leave it alone
- When cooling, keep the fan running; don't shut them off
- Need to be installed right, operated properly, and maintained well (just like any piece of HVAC equipment!)
- Better practices = better outcomes
- If LEAN is installing heat pumps, please let Greg know. We want to help advocate.



What's Coming Soon?





# The Bad: Increasing Utility Costs

- ▶ Could see increases over last year:
  - ▶ Oil heating costs: 68% higher
  - ▶ Propane costs: 8% higher
  - ▶ Natural gas costs: 23%
  - ▶ Electric costs: 65% higher
- ▶ Why? In short...
  - ▶ Most electricity in New England comes from natural gas, w/ limited pipeline capacity
  - ▶ War in Ukraine creates scarcity of natural gas in Europe
  - ▶ Liquefied natural gas is therefore much more expensive
  - ▶ Greater demand globally = higher prices

# Increasing Utility Costs would be Much Worse, if LHAs had not done so much

## 2013-2021 Utility Rates

- ▶ Electricity rates increased 30%
- ▶ Natural Gas rates increased 16%
- ▶ Oil rates down 24%
- ▶ Propane rates up 4%

## 2013-2021 LHA Actual Utility Costs

- ▶ Electricity costs down 12%
- ▶ Gas costs up 14%
- ▶ Oil costs down 60%
- ▶ Propane costs down 33%

Why?

Energy efficiency = reduced consumption

Net-metering agreements = cheaper electricity

Recently electrification reduces oil, propane, electricity consumption

Utility rates will almost always go up, but LHA costs don't have to!



What can you do now?



# Ways to reduce costs

## Reduce Consumption

- ▶ Energy efficiency projects
- ▶ Renewable energy installation
- ▶ Electrification projects
  - ▶ If you have renewables on-site, and electrify, you can reduce your costs dramatically

## Lower Rates

- ▶ Competitive suppliers
- ▶ Community Solar
- ▶ On-site solar

# How does an LHA Pursue On-Site Solar?

- ▶ Normal Capital Procurement
  - ▶ LHA buys, owns, operates the system (\$\$\$)
  - ▶ Responsible for insuring the system, making sure it works properly, repairs if needed, etc.
  - ▶ LHA receives 100% of the benefits
- ▶ Power Purchase Agreement
  - ▶ LHA leases roof, parking lot, or ground to a developer
  - ▶ The developer builds, owns, operates, maintains, repairs, and insures the system at *no cost* to the LHA
  - ▶ The LHA “buys electricity” from the developer at a much lower \$/kWh than standard
    - ▶ This is where the savings can come in, and contracts typically last 20-25 years

# How does one procure a PPA style project?

- ▶ Long way - two separate procurements
  - ▶ The construction is subject to Ch149
  - ▶ The lease agreement (roof, ground, etc.) is subject to Ch30b
  - ▶ Encouraged to hire an Owners Agent to manage the dual procurements, and the project may be too small to get many bids
- ▶ Shorter way - Power Options program
  - ▶ Power Options - Non-profit, implements programs on behalf of MassCEC
  - ▶ Partner with Solar Developer SunWealth (B-Corp, Mission-Driven in MA)
  - ▶ Statute enables Power Options to procure Solar PV projects on behalf of their members without going through that normal procurement process.
  - ▶ *Everyone* I talked to in state government/academia uses this pathway for their PPA

# How would an LHA get involved?

- ▶ Step 1: Email Me!
- ▶ Step 2: Greg screens development for:
  - ▶ Roof size, age
  - ▶ Parking lot size, age
  - ▶ Electrical infrastructure
- ▶ Step 3: Greg will pass on projects that are even marginally close or better to SunWealth, and connect the LHA with the folks there

# Eligible Project Types



## Eligible Project Types





# Eligible Project Types





# Things are happening, but they don't have to happen to you

- ▶ Storms are getting worse
- ▶ Weather is getting hotter
- ▶ Utility rates are going up
- ▶ Need to achieve net zero by 2050
- ▶ Do resiliency projects and design normal projects to better standards
- ▶ Weatherize buildings, and design projects better
- ▶ Conserve, electrify, power your own property
- ▶ Use DHCD Sustainability funding to fund projects that reduce GHG emissions; work with LEAN; install renewable energy

# How Can We Help You?

Time for Q&A

